

DOCKET#: Dvorac.J-08

APPLICATION

Of

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For

UNITED STATES LETTERS PATENT

On

Ring Topped Road Delineator With Sheltered Tie-On Terminal

Sheets of Drawings: Two

TITLE: Ring Topped Road Delineator With Sheltered Tie-On Terminal

**BACKGROUND OF THE INVENTION**

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FIELD OF THE INVENTION:

This invention relates generally to road or highway delineators, and more particularly to delineators that are easily grasped and which provide means for engaging a tape.

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DESCRIPTION OF RELATED ART:

The following art defines the present state of this field:

15 Brown et al., U.S. D406,543 describes a traffic channelizer design.

Bent et al., U.S. D412,131 describes a traffic channelizing system design.

Alt, U.S. D419,901 describes a safety marking pylon design.

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Abrams, U.S. 3,380,428 describes a traffic guide post means comprising a post member and a base member of mutually interfitting relationship.

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Lyons et al., U.S. 3,933,118 describes a signal device combining a fluorescent or phosphorescent light tube and a weighted base designed to be thrown or dropped from a vehicle as a warning marker. The light tube is preferably of the chemically actuated type and the base preferably has four resilient legs serving to ensure that the device will assume an upright position when dropped.

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Beard, U.S. 4,925,334 describes a traffic marker including an upright cone-shaped member and a base. Two orifices are provided on the upper end of the cone-shaped member and on

opposite sides thereof. A bracket is provided having an interior portion and an exterior portion. The bracket is operable to be inserted through the orifice such that the distal end of the interior portion contacts the interior surface of the cone-shaped member at a point. An  
5 orifice is disposed in the interior member through which a flag can be inserted. The flag is inserted through the orifice on the opposite side of the cone-shaped member through the orifice to contact the opposite sides of the interior surface of the cone at a point.

Thurston, U.S. 5,036,791 describes a stackable road delineator including an upright conical  
10 portion with a detachable weighted base. The top conical end has a handle graspable by the fingers of a human hand. Also, this end has a conical hollow interior so that when it is stacked on top of another similar delineator, the handle will freely fit within this hollow interior to thus provide stackable delineators.

15 Kulp et al., U.S. 5,749,673 describes a safety delineator which includes a conical body portion to which is attached one or more vertical panels. A new and improved handle feature permits easy and comfortable full hand gripping of the delineator and also prevents sticking and jamming together of a plurality of the delineators when they are stacked. The delineators may be stacked without removing the vertical panels, since each vertical panel is particularly  
20 designed to wrap around the conical body portion to which it is attached as another vertical delineator slides over it.

Ahn, U.S. 5,908,262 describes a basally adhered, self-recovering traffic lane delineator having a cylindrical post made of flexible material, having the air outlet and inlet on the  
25 center of its upper surface, and a supplementary support panel placed and adhered underneath the post. The support panel supports a lower part of the post and is adhered on the ground. Owing to its small package volume, the delineator is easy to move and safeguard.

30 Bent et al., U.S. 6,014,941 describes a traffic delineator including a cylinder and a base. The base has a hole therethrough to permit the cylinder to be inserted into the base and the base

then holds the cylinder down. A grip is formed in the center section of the cylinder to increase ease of carrying the delineator. The cylinder may also include a handle and means for affixing traffic warning lights and flags. The base may include means for holding  
5 removable ballast. The cylinder is formed by blow molding.

Eberle et al., U.S. 6,131,320 describes a free standing display panel with a foldable floor sign including an integrally formed handle portion and male and female hinge projections. The male and female hinge projections snap together into interlocking engagement with  
10 each other in response to simultaneous axial compression. The male coupling member includes a resilient finger portion and a latching head, and the female coupling member includes a cylindrical collar having a latch pocket and a radially stepped, inwardly projecting retainer. The resilient finger portion is radially deflectable in response to sliding  
15 engagement of the latching head against the retainer to permit the latching head to clear the retainer and enter the latch pocket. The display panels are stabilized in a spread-apart service position by a locking arm that is pivotally coupled to the display panels for folding movement within longitudinal slots formed along side edges of the display panels. Two or more floor signs are linked together by chains to provide a wide area barrier to entry.

20 The prior art teaches plastic road delineators with handles, but these are designed as assemblies of several parts, costly to assemble. However, the prior art does not teach a delineator as a unitary molded part with a hand graspable rim and a tape-engaging terminal mounted within the rim for protection thereof. The present invention fulfills these needs and provides further related advantages as described in the following summary.

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### **SUMMARY OF THE INVENTION**

The present invention teaches certain benefits in construction and use, which give rise to the objectives described below.

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The present invention teaches a road delineator, which includes an upright sidewall having circular cross-section as either a cylindrical or a cone, and at a lower end thereof, an outwardly extending support flange for standing the apparatus in an upright attitude. The upper end of the sidewall engages an elongated donut-shaped rim defining a vertical aperture. A mushroom shaped, and upwardly directed, tie-on terminal is mounted within the vertical aperture. A circular weighting member engages with the support flange. A crowd control tape may be engaged from unit to unit of plural delineators for establishing a boundry at a crime scene or at a hazard.

A primary objective of the present invention is to provide a road or highway delineator with features and benefits not taught by the prior art.

Another objective is to provide a tubular delineator that is easily manufactured by plastic molding techniques.

A still further objective is to provide a delineator with a hand graspable upper rim and a mushroom shaped tape tie-on.

A further objective is to provide such a delineator formed as a cone for improved stability when placed on a surface in an upright attitude.

Other features and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

#### **BRIEF DESCRIPTION OF THE DRAWING**

The accompanying drawings illustrate the present invention. In such drawings:

FIGURE 1 is a perspective view of a first preferred embodiment of the present invention having a cylindrical body;

- 5     FIGURE 2 is a perspective view of a second preferred embodiment of the invention having a cone shaped body; and

FIGURE 3 is a perspective view thereof showing how plural units of the invention may be connected by crown-control tape engaged with the units.

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### **DETAILED DESCRIPTION OF THE INVENTION**

Road delineators, such as this invention, are used for traffic control. They are commonly formed of a cylindrical plastic upright portion that may be colored highway orange, for  
15     example, and have a weighted detachable base for stability. Typical road delineators are approximately 42" high and 4" in diameter, and are equipped with reflective bands for day or night traffic control. Thus, they are distinguished from substantially smaller common traffic road cones that are primarily used for temporary traffic control. Because of the weighted base, a road delineator will typically remain in place if hit by a passing car,  
20     whereas a road cone will be overturned.

The above-described drawing figures illustrate the invention, a soft and pliable molded plastic delineator apparatus 10 having an upright stand 20 with, at a lower end thereof, an outwardly extending support flange 30 for stabilizing the delineator 10 in an upright and  
25     stable attitude. In one embodiment, the stand may not have the flange 30, but instead be wedged into a base 70 as is shown in Fig. 1. The upper end of the stand 20 is integral with a frame 40 which extends upwardly therefrom and preferably is in the shape of an elongated donut-shaped rim as shown in Figs. 1-3, and defines an aperture 42 which is ideal for being grasped by a hand for ease of placement from, and pickup onto, a truck by a mounted  
30     worker. An upwardly directed, tie-on terminal 50 is mounted within the vertical aperture 42

as shown in the figures so that it is easily addressed yet is secure from being damaged as it is surrounded by the frame 40.

- 5 In one embodiment, the upright stand 20 is generally cylindrical as shown in Fig. 1. The sidewall preferably provides plural, annular, spaced-apart stiffening ribs 22 which protrude from an outer surface 24.

In another embodiment, the upright stand 20 is generally cone shaped as shown in Fig. 2. In  
10 this embodiment, the stand 20 comprises three contiguous sections including a base section 25, a center section 26 joined to the base section 25 at an inwardly directed annular step 27, and an upper section 28 joined to the center section 26 at an outwardly directed annular step 29. The fact that the bottom of upper section 28 is of a greater diameter than the upper end of the center section 26, assures that the delimiters 10 do not tend to stick together when  
15 stacked or nested.

In Fig. 3 it is seen that the delimiters 10 may be joined by a flexible elongate member 60 such as a crowd-control tape, by a simple loop engagement about the tie-on terminal 50 of each of the units thus forming a combination for establishing a boundary about a crime  
20 scene or a hazard. A weighting ring 70 may be placed over the delimiters to assure upright standing stability, as is shown in Figs. 1 and 3.

The tie-on terminal 50 may be in the form of a mushroom, as shown in Figs. 1-3, or may be molded as a shaft 52 extending upwardly into the aperture 42 with small pimples 54  
25 arranged so that a tape tied to the shaft is not likely to be dislodged from the shaft by sliding upwardly. The shaft preferably provides a bolt hole 56 therein.

While the invention has been described with reference to at least one preferred embodiment, it is to be clearly understood by those skilled in the art that the invention is not limited  
30 thereto. Rather, the scope of the invention is to be interpreted only in conjunction with the appended claims.